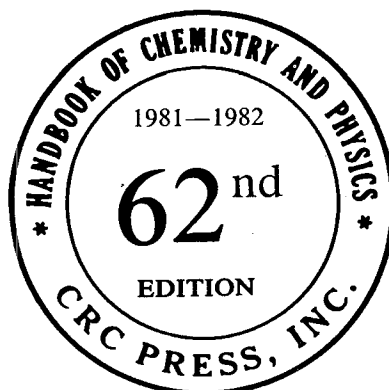


CRC Handbook of Chemistry and Physics

A Ready-Reference Book of Chemical and Physical Data



Editor

Robert C. Weast, Ph.D.

Formerly Vice President Research, Consolidated Natural Gas Service Company, Inc.
Formerly Professor of Chemistry at Case Institute of Technology

Associate Editor

Melvin J. Astle, Ph.D.

Formerly Professor of Organic Chemistry at Case Institute of Technology
and
Manager of Research at Glidden-Durkee Division of SCM Corporation

In collaboration with a large number of professional chemists and physicists whose assistance is acknowledged in the list of general collaborators and in connection with the particular tables or sections involved.



CRC Press, Inc.
Boca Raton, Florida

SYMBOLS AND ABBREVIATIONS

[α]	specific rotation	flam	flammable	peth	petroleum ether
>	above, more than	fir	fluorescent	pk	pink ²
<	below, less than	fr	freezes	Ph	phenyl
?	unknown	fr. p.	freezing point	pl	plates
aa	acetic acid	fum	fuming	pr	prisms
abs	absolute	gel	gelatinous	Pr	propyl
ac	acid	gl	glacial	Prak	J. Prak. Chem.
Ac	acetyl	gold	golden	purp	purple ²
ace	acetone	gr	green ³	pw	powder
AFCL	Aliphatic Fluorine Com- pounds	gran	granular	Py	pyrimidine
al	alcohol ¹	gy	gray ³	pym	pyramids
ALD	Aldrich Handbook of Organic Chemicals and Biochemicals	h	hot	rac	racemic
alk	alkali	H	Helv. Chim. Acta	rect	rectangular
Am	J. Am. Chem. Soc.	hex	hexagonal	red	red
Am	amyl (pentyl)	HDOC	Heilbron Dictionary of Organic Compounds	res	resinous
amor	amorphous	hp	heptane	rh	rhombic
anh	anhydrous	htng.	heating	rhd	rhombohedral
aqu	aqueous	hx	hexane	s	soluble
as	asymmetric	hyd	hydrate	sc	scales
Atlas	Atlas of Spectral Data and Physical Constants for Organic Compounds	hyg	hygroscopic	sec	secondary
atm	atmospheres	i	insoluble	sf	softens
b	boiling	i-	iso-	sh	shoulder
B	Beilstein	ign	ignites	silv	silvery
Ber	Chem. Ber.	in	inactive	sl	slightly
bipym	bipyramidal	inflamm	inflammable	so	solid
bk	black ²	infus	infusible	sol	solution
bl	blue ²	irid	iridescent	solv	solvent
BOSC	Bayant, et. al., Organo- silicon Compounds	iso	isooctane	Solvents Entries in this column in medium type means sol- uble; entries in boldface means very soluble	
br	brown ²	J	J. Chem. Soc.		
bt	bright	JOC	J. Org. Chem.		
Bu	butyl	KHOC	Kaufman Handbook of Organometallic Compounds	sph.	sphenoidal
bz	Benzene	L, l	levo ³	st	stable
CAS	Chemical Abstracts	la	large	sub	sublimes
c	percentage concentration	lf	leaf	suc	supercooled
ca	about (circa)	lig	ligroin	sulf	sulfuric acid
chl	chloroform	liq	liquid	sym	symmetrical
co	columns	lo	long	syr	syrup
col	colorless	lt	light	ta	tablets
con	concentrated	m	melting	tcl	triclinic
cor	corrected	M	meta-	tert	tertiary
cr	crystals	M	molar (concentration)	Tet	Tetrahedron
cy	cyclohexane	M	Merck Index, 7th Edition	tetr	tetragonal
d	decomposes	mcl	monoclinic	THF	tetrahydrofuran
D	line in the spectrum of sodium (subscript)	Me	methyl	to	toluene
D, d	dextro ³	met	metallic	tr	transparent
dd	slight decomposition	micr	microscopic	trg	trigonal
dil	diluted	min	mineral	undil	undiluted
diox	dioxane	mod	modification	uns	unsymmetrical
distb	distillable	mut	mutarotatory	unst	unstable
dk	dark	n	normal chain, refractive index	v	very
DI, dl	racemic ³	N	normal (concentration)	vac	vacuum
dlq	deliquescent	N	nitrogen ⁵	var	variable
DMF	dimethyl formamide	nd	needles	vap	vapor
E	Elsevier's	o-	ortho-	vic	vicinal
eff	efflorescent	oct	octahedral	visc	viscous
Et	ethyl	og	orange ²	volat	volatile or volatilises
eth	ether ⁴	ord	ordinary	vt	violet ²
exp	explodes	org	organic	w	water
extrap	extrapolated	orh	orthorhombic	wh	white ¹
fl	flakes	p-	para-	wr	warm
		pa	pale	wx	waxy
		par	partial	ye	yellow ²
		PCHE	Egloff Physical Constants of Hydrocarbons	xyl	xylene

¹ Generally means ethyl alcohol.

² The abbreviation of a color ending in "sh" is to be read as ending with the suffix "-ish," e.g., grsh means greenish.

³ D, L generally mean configuration and d, l generally mean optical rotation, but there are many examples in the chemical literature for which the meaning of these symbols is ambiguous and/or interchangeable.

⁴ Generally means diethyl ether.

⁵ N indicates a position in the molecule.